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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,996	09/22/2003	Jiann-Hsing Chen	81622/LPK	1959

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EXAMINER	
ZACHARIA, RAMSEY E	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/667,996	CHEN ET AL.
	Examiner	Art Unit
	Ramsey Zacharia	1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *38-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/22/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-37, drawn to a fusing-station roller, classified in class 428, subclass 36.8.

   II. Claims 38-40, drawn to a method of making a fusing-station member, classified in class 427, subclass 385.5.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make a materially different product such as a fusing-station belt.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Lawrence P. Kessler on 31 August 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-37. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 38-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The term "highly" in claim 17 is a relative term which renders the claim indefinite. The term "highly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. Use of the term "highly" renders the degree of crosslinking of the polydimethylsiloxane indefinite.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-6, 8-29, and 34-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Meguriya (U.S. Patent 6,261,214).

Meguriya teaches heat fixing roll comprising a thermosetting (i.e. crosslinked) organopolysiloxane composition containing a hollow filler (column 2, lines 7-12). The hollow filler has elasticity and is made of polymers of (meth)acrylonitrile, (meth)acrylate, or vinylidene chloride with inorganic particles attached to the walls thereof (column 2, lines 13-26). The hollow filler has a diameter of preferably up to 90 μm (column 2, lines 40-42). The preferred concentration of the hollow filler is 0.5 to 100 parts by weight per 100 parts of silicone, i.e. approximately 0.5 to 50 wt% (column 2, lines 52-55). Conductive agents, such as carbon black, zinc oxide, aluminum oxide, and titanium oxide, may be added to the silicone (column 4, lines 55-57). Silica (i.e. a strength-enhancing filler particle) having a particle size of about 0.1-50 μm may be added to the silicone (column 4, line 64-column 5, line 2). In the embodiment of Example 1, about 5 wt% of silica is added to the composition (column 6, lines 8-17). A fluoro-resin layer may be formed over the silicone layer (column 5, lines 15-23). The silicon is made

by heating first at a temperature of about 100 to 150 °C, then at about 180 to 200 °C (column 5, lines 24-28). Temperatures of 100 °C and above are elevated temperatures and there is an explicit teaching to post-cure the silicone at temperatures above about 180 °C. The silicone has a thermal conductively of as high as $5.0x10^{-4}$ cal/cm • sec • °C, i.e. about 0.12 BTU/hr/ft/°F (column 5,lines 29-31). The silicone layer has a preferred thickness of 0.2 to 50 mm, i.e. about 0.008 to 2 inches (column 5, lines 38-40). The preferred upper limit of the thickness of the fluoro-resin layer 50 μm, i.e. about 0.002 inch (column 5, lines 63-65).

Regarding claim 21, a thermal conductivity of $5.0x10^{-4}$ cal/cm • sec • °C is taken to read on approximately 0.2 BTU/hr/ft/°F.

Regarding claims 23, 24, and 28, the Shore A hardness is a material property. Since the silicone material taught by Meguriya appears to be the same as that used in the instant invention, it should have the same Shore A hardness.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meguriya (U.S. Patent 6,261,214).

Meguriya teaches all the limitations of claim 7, as outlined above, except that the reference is silent with respect to the amount of conductive agent added to the silicone, although there is an explicit teaching to add conductive agent to the silicone.

The amount of conductive agent added to the silicone directly affects the conductivity of the silicone. That is, the amount of conductive agent added is a results effective variable. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of conductive agent in the silicone, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980).

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1-9, 11-14, and 15-37 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-7, 9-12, 15-17, 21, 22, 24-29, 30-37 of copending Application No. 10/667,548. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only

difference between the instant claims and those of Application No. 10/667, 548 is the temperature at which the silicone is cured. A temperature below 100 °C as recited in the instant claims (e.g. 95 °C, 80 °C, or 70 °C) can still be considered an "elevated temperature."

Regarding claims 14 and 38, the temperature at which the silicone is made (above about 180 °C in the instant claims and below 100 °C in Application No. 10/667,548) is a product-by-process limitation. When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the applicant to present evidence from which the examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F. 2d 742, 180 USPQ 324 (CCPA 1974). Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) and MPEP § 2113. In this case, the resulting products appear to be the same (same cylindrical core with the same silicone containing the same microsphere particles and solid filler). Therefore, the burden is on the applicant to conclusively demonstrate that the product formed at a temperature of greater than about 180 °C is different from that formed at a temperature of less than 100 °C.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claims 1-32 and 34-37 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 31 of U.S. Patent No. 6,486,441 in view of Meguriya (U.S. Patent 6,261,214).

Claim 31 of U.S. Patent No. 6,486,441 is directed to a fuser member comprising a core, a base cushion layer, and an outer layer overlying the base cushion layer. The outer layer has a thickness of as low as about 4 mils (i.e. 0.004 inch) and comprises a random copolymer of 1-50 or 60-80 mole% vinylidene fluoride, 10-90 mole% hexafluoropropylene, and 10-90 mole% tetrafluoroethylene.

Regarding instant claim 30, thermal conductivity is a material property. Since the fluoropolymer material claims in U.S. Patent No. 6,486,441 appears to be the same as that used in the instant invention, it should have the same thermal conductivity.

U.S. Patent No. 6,486,441 does not teach the specifics of the base cushion layer.

Meguriya teaches or fairly suggests a thermosetting (i.e. crosslinked) silicone composition containing a hollow filler for use in a heat fixing roll as outlined above. The silicone of Meguriya has desirable heat insulation properties, yields a rubber with uniform micro-cells and does not contain dangerous hydrogen blowing agents or blowing agents that can retard curing or decompose into toxic and odorous gases (column 1, lines 32-57).

One skilled in the art would be motivated to use the silicone of Meguriya as the base cushion layer of U.S. Patent No. 6,486,441 because it has desirable heat insulation properties, yields a rubber with uniform micro-cells and does not contain dangerous hydrogen blowing agents or blowing agents that can retard curing or decompose into toxic and odorous gases.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramsey Zacharia
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